

REMARKS

This Amendment is responsive to the Office action dated May 1, 2006. By this Amendment, claims 23, 26, 31, 32, 34-38, 41, 42, 94, 95, 97, 102, 103, 105, and 106 have been amended; and claims 30, 33, 43, 101, 104, and 107 have been cancelled. Upon entry of this Amendment, claims 23-29, 31, 32, 34-42, 94-100, 102, 103, 105, and 106 will be pending.

I. Specification

The Applicants have amended the Title to address the Examiner's objection.

II. Claim Rejections – 35 U.S.C. § 102

Claims 23-43 and 94-107 were rejected under 35 U.S.C. § 102(b) as being anticipated by Gartstein et al. (U.S. Patent No. 6,074,775). The Applicants have cancelled claims 30, 33, 43, 101, 104, and 107, rendering the rejection moot with respect to these claims. In addition, the Applicants have amended independent claims 23 and 94 and various dependent claims to more precisely describe embodiments of the invention.

A. Independent Claim 23

Amended independent claim 23 recites, among other things:

23. A battery pack configured to be interfaced with a power tool, the battery pack comprising:

...

a circuit operable to enable the controller to operate when the voltage supplied by the cell to the controller is below the operating voltage threshold of the controller, the circuit including a switch operable to selectively interrupt the transfer of power between the cell and the power tool while the power tool is being operated by a user, the switch including a FET.

Gartstein does not teach or suggest at least the above limitations of claim 23.

Gartstein discloses a boost circuit that boosts the battery output voltage when the cell voltage drops below the cut-off voltage of the device being powered. In particular, a discharge sub-controller 102 includes a converter that allows the controller to discharge the battery independent of the cut-off voltage of a given device. (See FIG. 4C; col. 15, lines 42-51; col. 16, lines 27-40.) In the preferred embodiment of FIG. 13, a DC/DC converter 1350 includes MOSFETs M3 and M4, which are controlled to vary the battery output voltage. (See col. 29, line 54 to col. 31, line 32.)

Gartstein does not disclose “a circuit operable to enable the controller to operate when the voltage supplied by the cell to the controller is below the operating voltage threshold of the controller,” as recited in claim 23. To the contrary, as noted above, the focus in Gartstein is on the cut-off voltage of the device to be powered, not on an operating voltage threshold of the battery controller. Thus, while the boost circuit of Gartstein enables charging to occur when the cell voltage drops below the cutoff-voltage of the device to be powered, the circuit of claim 23 “enable[s] the controller to operate when the voltage supplied by the cell to the controller is below the operating voltage threshold of the controller.” Moreover, the MOSFETs of Gartstein are controlled to regulate the amount of voltage boost provided, not to “selectively interrupt the transfer of power between the cell and the power tool while the power tool is being operated by a user,” as recited in claim 23.

For at least the above reasons, independent claim 23 is allowable. Dependent claims 24-29, 31, 32, and 34-42, which depend from claim 23, are allowable for at least the above reasons and because of additional features recited therein.

B. Independent Claim 94

Amended independent claim 94 is similar to claim 23. For instance, claim 94 recites, among other things, "said method comprising the act of enabling the controller to operate when the voltage supplied by the cell to the controller is below the operating voltage threshold of the controller, wherein the enabling act includes the act of controlling the FET such that the transfer of power between the cell and the power tool is selectively interrupted while the power tool is being operated by a user."

For at least the reasons discussed above with respect to claim 23, independent claim 94 is allowable. Dependent claims 95-100, 102, 103, 105, and 106, which depend from claim 94, are allowable for at least the above reasons and because of additional features recited therein.

III. Conclusion

In view of the above, the Applicants respectfully request entry of this Amendment and allowance of pending claims 23-29, 31, 32, 34-42, 94-100, 102, 103, 105, and 106.

The undersigned is available for telephone consultation at the number below.

Respectfully submitted,



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